

A wherein the controller cycles the output power by applying a predetermined amount of output power to said tissue, lowering the output power upon an output voltage reaching a predetermined maximum, re-applying the predetermined amount of output power to said tissue if a measured tissue impedance does not indicate desiccation of the tissue, and terminating [terminates] output power when the measured tissue impedance exceeds a predetermined value, the predetermined value corresponding to a desiccated condition of tissue.

2. The generator of claim 1, wherein the controller changes the voltage to cycle the output power.

3. The generator of claim 1, wherein the controller changes the output current to cycle the output power.

4. The generator of claim 1, wherein the output voltage is cycled by lowering the output voltage once it reaches a predetermined maximum and raising the output voltage if the reduction in measured tissue impedance does not indicate desiccation of the tissue.

5. (Canceled)

6. (Amended) The generator of claim [5] 1, wherein the output power is cycled at a frequency that is between 1 and 20 Hz.

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6 7. (Amended) The generator of claim [6] 1, wherein the output voltage does not exceed 120 volts.

8. The generator of claim 1, further comprising a comparator wherein the measured tissue impedance value is compared to a first signal representative of a desired tissue impedance value by the comparator and a difference signal is produced.

9. The generator of claim 8, wherein the difference signal is input to the controller which generates a signal to adjust the power.

10. The generator of claim 8, wherein the first signal has a cyclic pattern.

11. The generator of claim 10, wherein the first signal is a sine wave.

12. (Amended) An electrosurgical generator for treating tissue by applying energy comprising:

a desiccation detector for measuring a degree of desiccation of tissue; and

[means] a controller for minimizing the burning of tissue[, the minimizing means] comprising power control circuitry [a controller] for repeatedly increasing and decreasing output power to the tissue to be treated, the [controller] power control circuitry coupled to the desiccation detector and operating to adjust[ing] the output power in response to the degree of desiccation of the tissue by applying a predetermined amount of output power to said tissue, lowering the output power upon an output voltage reaching a predetermined maximum, and re-applying the predetermined amount of output power to said tissue if said desiccation detector does not indicate desiccation of the tissue.

A3 13. (Amended) The generator of claim ¹¹12, wherein the output power is terminated by said controller upon detection of desiccated tissue.

14. (Amended) The generator of claim ¹²13, wherein the desiccation detector further comprises impedance measuring circuitry, wherein the degree of desiccation of the tissue is determined by the [measured] impedance of the tissue measured by the impedance measuring circuitry.

15. (Amended) The generator of claim ¹³14, wherein the circuitry adjusts the output power [is adjusted] by adjusting the output voltage within a predetermined voltage range.

16. (Amended) The generator of claim ¹¹12, wherein the output power is repeatedly increased and decreased by the circuitry at a frequency between 1 and 20 Hz.

17. A method for applying energy to tissue to treat tissue, the method including supplying a generator having a power control system to produce an adaptive oscillatory power curve to minimize the heating effect on tissue, the method comprising:

a) applying a high current into a low impedance load until a maximum power is

reached;

- b) adjusting the output voltage to maintain constant output power as impedance increases as tissue begins to desiccate;
- c) dropping the output power in response to a rapid rise in tissue impedance indicating the boiling of tissue;
- d) allowing the tissue impedance to fall to a predetermined minimum value and then raising the output power to cause an increase in tissue impedance;
- e) repeating steps b and c until impedance reaches a maximum value.

18. A method for applying energy to tissue to treat tissue, the method including supplying a generator having a power control system to produce an adaptive oscillatory power curve to minimize the heating effect on tissue, the method comprising:

- a) applying a high current into a low impedance load until a maximum power is reached;
- b) adjusting the output voltage to maintain constant output power as impedance increases as tissue begins to desiccate;
- c) dropping the output power if the output voltage exceeds a maximum value;
- d) raising the output power after a predetermined period of time to cause an increase in tissue impedance; and
- e) repeating steps b and c until impedance reaches a maximum value.

Please add the following new claims:

19. A method for applying energy to tissue to treat the tissue, comprising steps of: